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Code No: C8804**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M.Tech I Semester Examinations, April 2011****ANALYTICAL INSTRUMENTATION
(ELECTRONICS & INSTRUMENTATION)****Time: 3hours****Max. Marks: 60****Answer any five questions
All questions carry equal marks**

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1. a) Briefly bring out the various reasons for the need of instrumentation in analytical chemistry.
b) With a neat schematic explain the principle of zeroomatic pH meter. [12]
- 2.a) Explain briefly the principle and operation of UV visible spectro photo meter using littrow prism.
b) Explain how the instrument is calibrated. [12]
3. Explain in detail the construction and working of atomic absorption spectrophotometer meter. [12]
4. a) Draw the schematic diagram of gas chromatographic system and describe its working principle.
b) What are the different types of detections usually used with a gas chromatographic system? Describe a flame ionization detector in detail. [12]
- 5.a) briefly explain the principle involved in NMR spectrometry
b) Explain in detail the construction of NMR spectrometer. [12]
6. What is a katharo-meter? Where is it used? With a neat diagram explain the instrument which uses the same. [12]
7. With a neat diagram explain the working of a NOX analyzer. [12]
8. Write short notes on
a) GM counter b) itemization chamber [12]
